

KSM (Kaisai Service Monitoring)



1. Usage and description

KSM device allows communication between MODBUS and C14 protocols, enabling monitoring and of heat pumps through KSM remote access platform.

2. Device installation

Installation have to be carried out by qualified person according to local laws and regulations. All installation works can be done only with power switched off. Before installation ensure that cables are not connected to voltage. It is required to take of protective cover that is held in place by screw to connect cables to device .

2.1. Connecting to internet and connecting to mains power

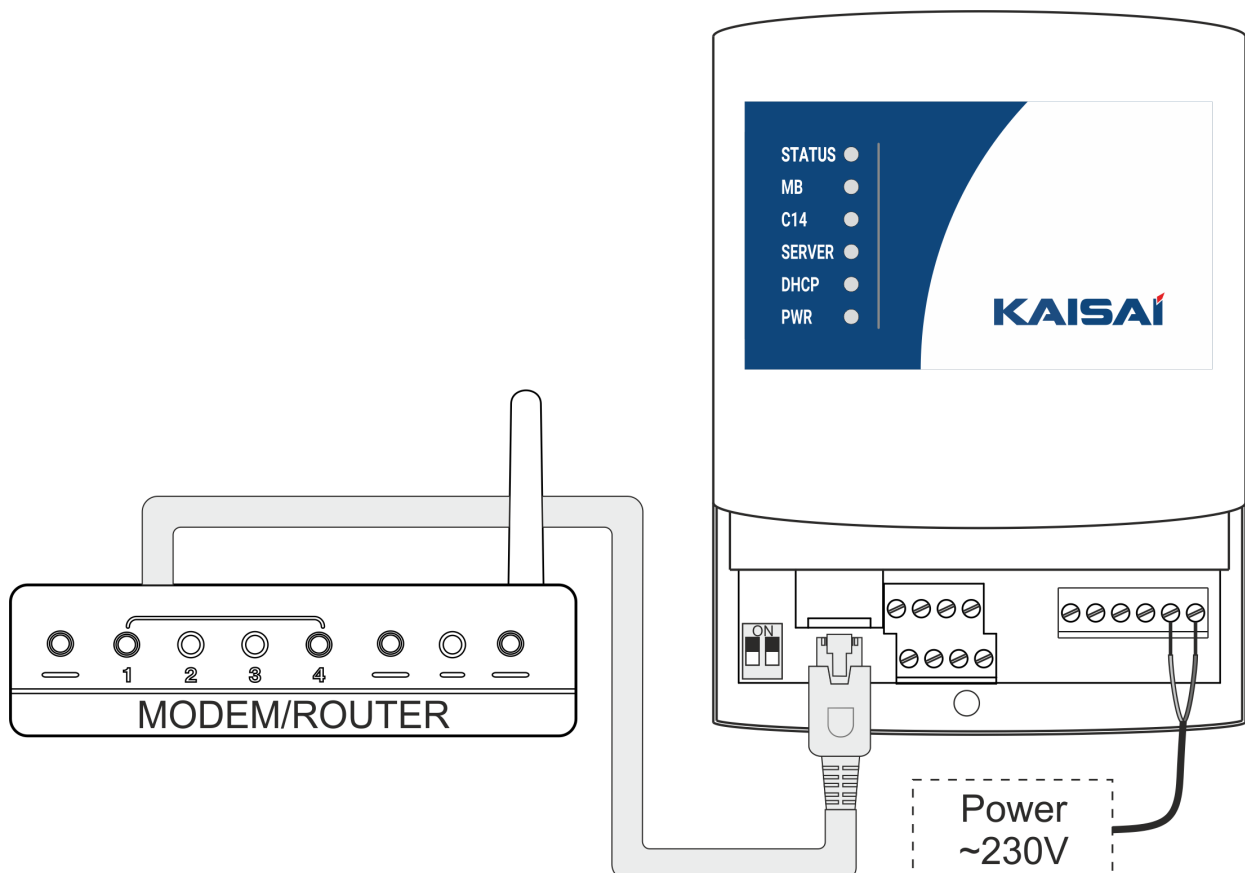
The device must be powered from 230V/50Hz electric grid. It should be protected by residual-current circuit breaker and overcurrent protection. Cables should be laid in a way to prevent contact with surfaces exceeding their nominal work temperature. Ends of cables should be terminated with terminals. Device has connectors prepared for cables with cross-section up to 1,5mm². Connectors are shown on the image below.

To enable communication with Internet it is required to connect the device to Internet with Ethernet cable (RJ45). Connecting with Internet does not require additional configuration.

Remote access platform requires any device with modern browser (supporting websockets): PC, laptop, tablet, smartphone or TV

Correct operation of the device is shown by status LEDs on the front cover:

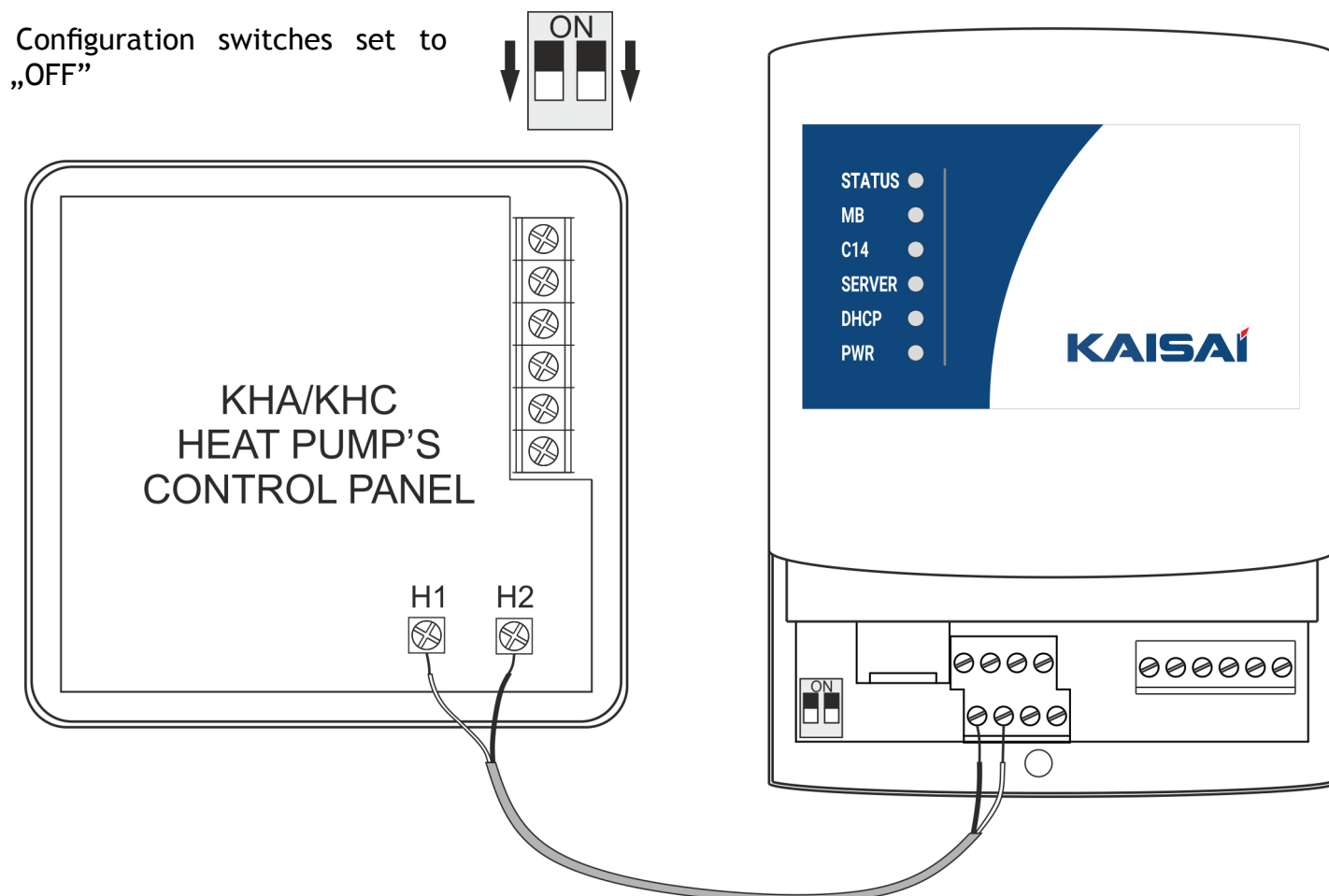
- PWR (red) - the device is powered
- DHCP (green) - the device is connected to local network
- SERVER (green) - the device is transmitting data to or from server
- C14 (yellow) - the device is transmitting data in C14 protocol
- MB (yellow) and STATUS (green) - the device is communicating in MODBUS protocol



2.2. Connecting R32 heat pump (KHA/KHC) to KSM

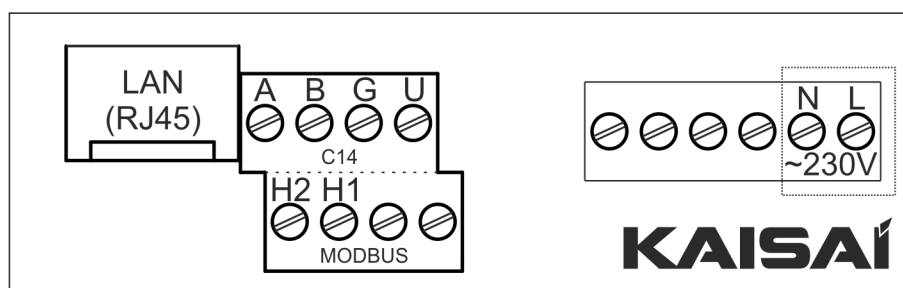
Connection between ports H1 and H2 (H1 connected to H1 and H2 connected to H2) on both module and heat pump's control panel are required for correct communication between devices. Connections should be made with cables with cross-section between 0.15 and 0.5 mm². Cables' ends should be terminated with terminals or covered with solder. To avoid mistakes cables should have different colors than power cables.

Connection schematic is shown below



2.3. Connector discription

KSM module inputs and outputs are shown below



N, L - main power 230V input

H1, H2 - MODBUS protocol connectors

A, B - C14 protocol connectors

G, U - +12V output

LAN - internet connection (RJ45)

2.4. Connecting R290 heat pump (KHx) to KSM

Connection between MODBUS ports on both module and heat pump are required for correct communication between devices.

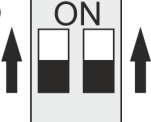
Connections should be to join:

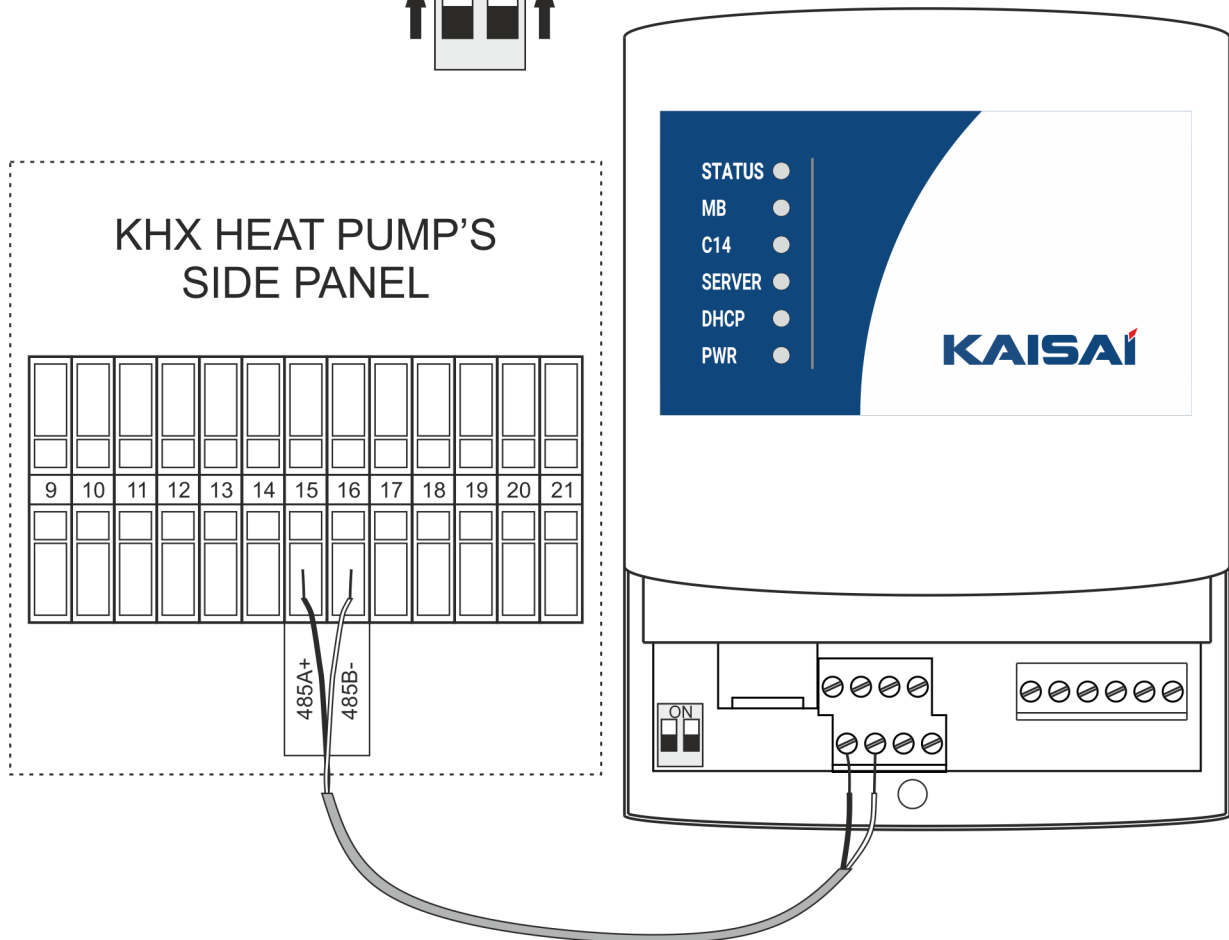
RS485A+ with H2

RS485B- with H1

Connections should be made with cables with cross-section between 0.15 and 0.5 mm². Cables ends should be terminated with terminals or covered with solder. To avoid mistakes cables should have different colors than power cables.

Connection schematic is shown below

Configuration switches set to  „ON”



2.5. Connector discription

KSM module inputs and outputs are shown below

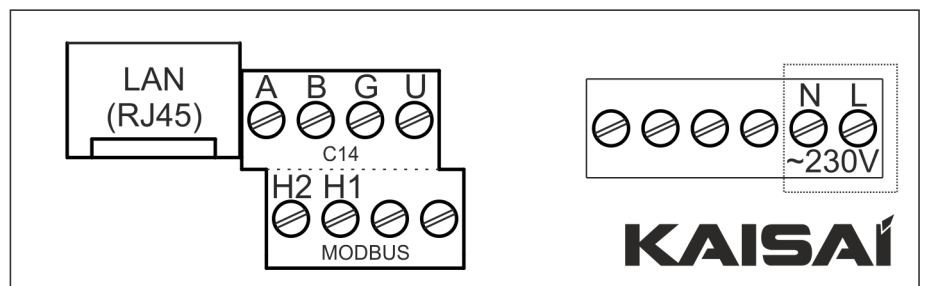
N, L - main power 230V input

H1, H2 - MODBUS protocol connectors (corresponding to RS485B- and RS485A+)

A, B - C14 protocol connectors

G, U - +12V output

LAN - internet connection (RJ45)



3. Registering KSM account, adding gate and device

Visit <https://www.sterowanie.kaisai.com> website and register new account

Password should be at least 8 character long and contain capital letters, numbers or special characters.

The login screen features the Kaisai logo at the top, followed by the word 'LOGIN' in blue. Below this are two input fields: 'Email' and 'Password'. A link for 'Forgotten password' is located below the password field. There is a 'REMEMBER ME' checkbox and a blue 'Sign In' button. A 'Sign Up' link is at the bottom.

The sign up screen features the Kaisai logo at the top, followed by the word 'SIGN UP' in blue. Below this are three input fields: 'Email', 'Password', and 'Confirm password'. A blue 'Sign Up' button is centered below the fields. A 'Sign In' link is at the bottom.

3.1. Adding new gate

New gate screen will be shown right after registering. Input gate code printed on a sticker on packaging and on device's back. **WARNING: Gate's code has to be typed with capital letters only**

After adding gate you can choose manufacturer and input name of your installation

The 'ADD GATE' screen has a header with a gate icon and the text 'ADD GATE'. It contains several fields: 'GATE CODE' with the value '92A28F5F1CB9', 'SELECT PRODUCER' with a dropdown menu showing 'Select producer', and 'ENTER GATE'S LABEL' with the text 'Enter gate's label'. There is a 'MASTER MODE ENABLED' checkbox. At the bottom are two buttons: a blue 'Add gate' button and a red 'Abort' button.

CHOOSE MANUFACTURER

Choose manufacturer from the list. Manufacturer can help you manage your device when you generate service code

ENTER NAME

Input name that will be helpful to identify your installation

Checkbox Installation with MASTER should be unchecked

Click ADD GATE to save

3.2. Adding new device

CHOOSE TYPE

Choose from list, according to type of the connected device (e.g. KSM - R32 or KSM - R290)

NAME

Input additional name to help identify device

ADDRESS

Address of the device in C14 protocol

Heat pump added to KSM has address 1.

The 'ADD DEVICE' screen features a header with a device icon and the text 'ADD DEVICE'. It includes a 'SELECT TYPE' dropdown menu with the selected option 'KSM(ZNS) - R32 (R32 - KHA/KHC)', a 'NAME' field with 'R32 - KHA/KHC', and an 'ADDRESS' field with '1'. At the bottom are two buttons: a blue 'Add device' button and a red 'Abort' button.

Click ADD DEVICE to save